

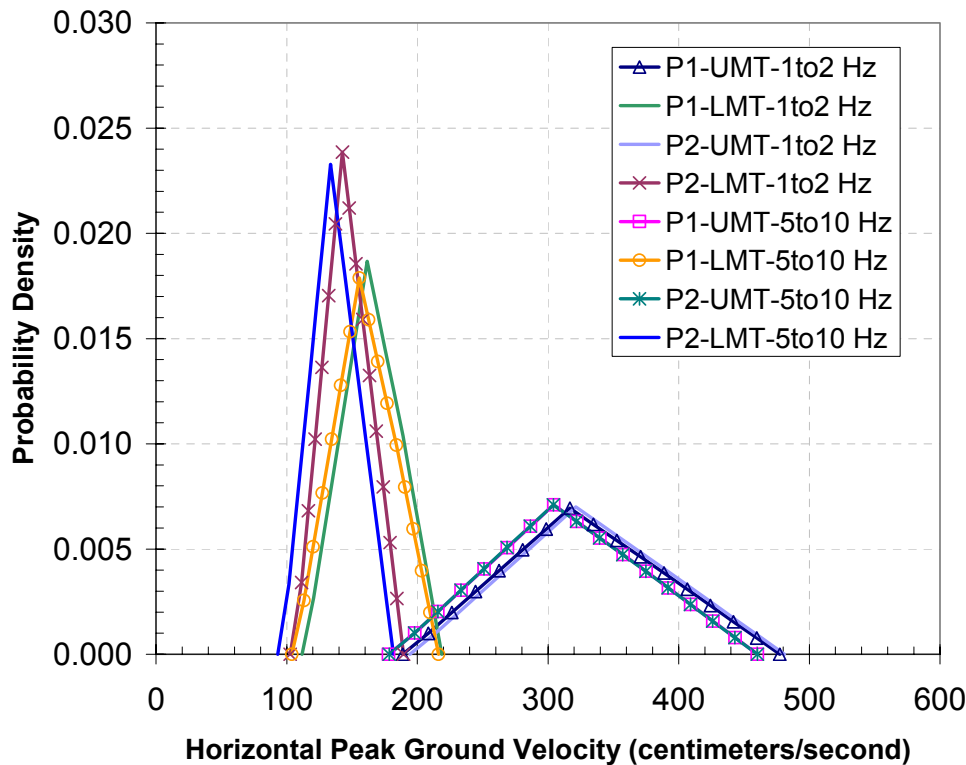
# Scientific Analysis Administrative Change Notice

Complete only applicable items.

<b>1. Document Number:</b>	ANL-MGR-GS-000004	<b>2. Revision:</b>	00	<b>3. ACN:</b>	01
<b>4. Title:</b>	Peak Ground Velocities for Seismic Events at Yucca Mountain, Nevada				
<b>5. No. of Pages Attached:</b>	1				

<b>6. Approvals:</b>		
<b>Preparer:</b>	Richard Quittmeyer <u>R.C. Quittmeyer</u> Print Name and Sign	7/19/2005 Date
<b>Checker:</b>	Norma Biggar <u>Norma Biggar</u> Print name and sign	7/18/2005 Date
<b>QER:</b>	<sup>for</sup> Judy Gebhart <u>Judy Gebhart</u> Print name and sign	7/20/2005 Date
<b>Responsible Manager:</b>	Paul Dixon <u>Paul Dixon</u> Print name and sign	7-21-05 Date

7. Affected Pages	8. Description of Change:
6-24	<p>Change to figure</p> <p>Figure 6-8 "Probability Distribution of Bounding Horizontal PGV", to correct the y-axis values (Probability Density).</p> <p>Note: Replacement of the existing version of Figure 6.8 in ANL-MGR-GS-000004 Rev 00 with the correct version does not affect the technical content of the report. The chart and worksheets in Appendix D of the report, from which the figure was taken and from which the product output were derived, are correct in the existing version. The figure in the report, however, was not updated during the check and review process when the figure in Appendix D changed in response to comments. Thus, correction of the figure in the report has no impact on the technical content of the report.</p> <p>This error was identified in CR 5323</p>



Source: Appendix D, *Probability Distributions.xls*.

NOTE: In the legend, the notations refer to the various combinations of repository block velocity profile (P1, P2), dynamic material property curves (Upper Mean Tuff (UMT) and Lower Mean Tuff (LMT)), and response spectrum frequency range (1 to 2 Hz and 5 to 10 Hz).

Figure 6-8. Probability Distribution of Bounding Horizontal PGV

## 6.7 BOUND TO EXTREME GROUND MOTION AT YUCCA MOUNTAIN

As discussed in Section 1, the characterizations of epistemic uncertainty and aleatory variability in the seismic hazard calculations show that, when extended to lower and lower annual frequencies of being exceeded, the ground motion level increases without bound, eventually reaching levels that are not credible and are physically unrealistic. In Section 6.6, an assessment is made of the bound to horizontal PGV experienced at the waste emplacement level at Yucca Mountain. Because the rocks at the emplacement level do *not* show evidence that this level of horizontal PGV has ever been achieved during the past 12.8 million years, the PGV probability distributions given in Section 6.6 are taken as a reasonable bound for use in TSPA. 10 CFR 63.102(j) [DIRS 156605] provides that "...events (event classes or scenario classes) that are very unlikely (less than one chance in 10,000 over 10,000 years) can be excluded from the analysis." It is recognized that there are not sufficient data to *prove* that the bounding ground motions given in Section 6.6 have less than one chance in 10,000 of occurrence over 10,000 years, such that they can be excluded from the TSPA per § 63.102(j) [DIRS 156605]. However, during the 12.8 million years since deposition of the rocks at Yucca Mountain, there have been numerous opportunities for ground motions to exceed levels that would lead to rock